

REMARKS

Reconsideration and removal of the grounds for rejection are respectfully requested.

Claims 1-8 were in the application, claims 1-8 have been cancelled and new claims 9-14 substituted therefore. A replacement Abstract is also enclosed.

The specification and abstract have been amended, taking into consideration the Examiners' comments and the objections to the specification and abstract are believed to be moot.

New claim 9 combines elements of prior claims 1 and 3 together, with the language corrected as to form and for clarity. New claim 11 similarly substantially tracks the elements of new claim 9, also corrected as to form and for clarity.

Support for the language used in claims 9 and 11 is found on page 8, lines 7-18, page 9, line 18-page 10, line 31.

Claim 8 has been replaced by new claim 14, with the claim dependency corrected, rendering moot the objection. Claim 7 has been replaced by claim 13 which has also been corrected.

As claim 9 includes the limitations of claims 1 and 3 therein, the rejection under 35 USC 102(b) over Simon, DE 19521924 has been rendered moot.

As claim 11 includes the limitations of claims 5, revised to parallel the limitations of claim 9, the rejection under 35 USC 102(b) over Spatz, et al, US 5,321,935 is believed to have been rendered moot.

Claims 1-4 and 6 were rejected as being obvious over Spatz, et al in view of Simon.

To establish a prima facie case of obviousness based on a combination of references, there should be some teaching, suggestion or motivation in the prior art to make the specific combination that was made by the applicant. In re

Raynes, 7 F.3d 1037, 1039, 28 U.S.P.Q.2D (BNA) 1630, 1631 (Fed. Cir. 1993); In re Oetiker, 977 F.2d 1443, 1445, 24 U.S.P.Q.2D (BNA) 1443, 1445 (Fed. Cir. 1992). However, the search for a teaching or suggestion should not be rigid, and a more flexible approach to a determination of obviousness should be used so as to avoid conflict with common sense. KSR International Co. v. Teleflex Inc. et al, 2007 U.S. Lexis 4745 U.S. Supreme Court, April 30, 2007. The Supreme Court reaffirmed that obviousness can not be established by a hindsight combination to produce the claimed invention. In re Gorman, 933 F.2d 982, 986, 18 U.S.P.Q.2D (BNA) 1885, 1888 (Fed. Cir. 1991). It is the prior art itself, and not the applicant's achievement, that must establish the obviousness of the combination.

The cited documents disclose methods and device in which the torque applied is detected by means of a torque detector. In particular DE19521924 describes an interaction between the torque value and the screwing angle, stating: "With the exceeding of a maximum permissible torque or a maximum permissible angle of rotation, a flag Z2 is emitted at the exit since the relevant container was not duly locked." Spatz, in fact, teaches away from the claimed application, since the angle of rotation sensor is activated only upon reaching of a predetermined torque.

Accordingly, this means that two parameter are detected and compared with predetermined stored values. However, this means that if the torque value is reached but the correct angle of rotation is not, for instance because of a defective thread in the cap or in the bottle neck, the container may still be marked as good, when in fact it is not.

The claimed invention overcomes this problem by providing verification after a predetermined fixed cap screwing time or a predetermined rotation.(Spec. p. 9, l. 1-3, l. 22-24), at the end of which the instant torque value is compared with a stored threshold value (P. 9, l. 18-19, P. 10, l. 1-2).

The advantage over the prior art is that the present invention can identify

faulty containers not only when the threshold torque is not reached, but when the torque is reached too early, that is when the cap is likely cross-threaded on the container. (P. 10, l. 6-9 and 19-21) On the basis of the comparison, taken at the end of the rotations or period of time, and identifying whether the threshold torque was reached too early, the container is marked as good or faulty, with the control unit rejecting those containers where the torque is reached before the end of the preset rotations or rotation time.

There is nothing in Spatz or Simon which would teach or suggest the method or apparatus of the present invention. To the contrary, one skilled in the art is led to use of the two discussed parameters, torque and rotation angle, as being sufficient to determine correct closure, yet even if Spatz or Simon are followed, faulty closures may still proceed undetected. It would be surprising to one skilled in the art that the applicants' invention is capable of detecting faulty closures in the two situations discussed in the specification, yet with less complexity than the systems proposed in the cited art. Consequently, claims 9-11 are not rendered obvious over the combination.

Claims 6 and/or 7 were rejected as being obvious over Simon in view of Oshima.¹ Claim 12 and 13, which replace claims 6 and 7 depend from and contains all the limitations of claim 11 therein and the combination of Simon with Oshima does not teach or suggest the invention of claims 12 or 13. More particularly, there is no teaching or suggestion for providing verification after a predetermined fixed cap screwing time or a predetermined rotation, noting is the threshold has been reached as well as identifying when the threshold torque was reached, so as to identify faulty containers not only when the threshold torque is not reached, but when the torque is reached too early, that is when the cap is likely cross-threaded on the container. Consequently, claims 12 and 13 are believed patentable over the cited art.

¹ Claim 7 was twice rejected over Simon in view of Oshima, and it is assumed that the initial rejection was intended to address claim 6, so both rejections are discussed together.

Based on the above amendments and remarks, favorable consideration and allowance of the application are respectfully requested. However should the examiner believe that direct contact with the applicant's attorney would advance the prosecution of the application, the examiner is invited to telephone the undersigned at the number given below.

Respectfully submitted,

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MARKED UP VERSIONS OF THE AMENDED SPECIFICATION AND ABSTRACT

The following is a marked up version of the Abstract presented above:

According to a method for controlled closing of a container (1) with a related threaded cap (3), a container (1) is moved to a cap (3) feeding station, where a cap (3) is placed on the a threaded upper end of the container (1). Then the container (1), together with the cap (3) is transferred to a closing station, where the said cap (3) is screwed to the said container (1). During screwing, the instant value of the torque applied to the cap (3) is measured and compared with a pre-selected threshold value, so ad as to verify, in relation to the threshold value having been reached and the moment, in at which the value is reached, a stable tightening if of the cap (3) onto the container (1).

The following is a marked up version of the paragraph on page 5, lines 12-19 of the specification:

~~The characteristic features of the present invention, as resulting from the claims, will be pointed out in the following detailed description with reference to the The enclosed drawing, which is a schematic lateral view, partially in section, of a preferred embodiment of a device for verifying and identifying correct closure of a bottle with a screw cap, which device carries out the method proposed by the invention.~~